* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	Sep 17	IMSworld Pharmaceutical Company Directory name change to PHARMASEARCH
NEWS 3	Oct 09	Korean abstracts now included in Derwent World Patents Index
NEWS 4	Oct 09	Number of Derwent World Patents Index updates increased
NEWS 5	Oct 15	Calculated properties now in the REGISTRY/ZREGISTRY File
NEWS 6	Oct 22	Over 1 million reactions added to CASREACT
NEWS 7	Oct 22	DGENE GETSIM has been improved
NEWS 8	Oct 29	AAASD no longer available
NEWS 9	Nov 19	New Search Capabilities USPATFULL and USPAT2
NEWS 10	Nov 19	TOXCENTER(SM) - new toxicology file now available on STN
NEWS 11	Nov 29	COPPERLIT now available on STN
NEWS 12	Nov 29	DWPI revisions to NTIS and US Provisional Numbers
NEWS 13	Nov 30	Files VETU and VETB to have open access
NEWS 14	Dec 10	WPINDEX/WPIDS/WPIX New and Revised Manual Codes for 2002
NEWS 15	Dec 10	DGENE BLAST Homology Search
NEWS 16	Dec 17	WELDASEARCH now available on STN
NEWS 17	Dec 17	STANDARDS now available on STN
NEWS 18	Dec 17	New fields for DPCI
NEWS 19	Dec 19	CAS Roles modified
NEWS 20	Dec 19	1907-1946 data and page images added to CA and CAplus
NEWS 21	Jan 25	BLAST(R) searching in REGISTRY available in STN on the Web
NEWS 22	Jan 25	Searching with the P indicator for Preparations
NEWS 23	Jan 29	FSTA has been reloaded and moves to weekly updates
NEWS 24	Feb 01	DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS 25	Feb 19	Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS 26	Mar 08	Gene Names now available in BIOSIS
NEWS 27	Mar 22	TOXLIT no longer available
NEWS 28	Mar 22	TRCTHERMO no longer available

NEWS EXPRESS	February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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FILE 'HOME' ENTERED AT 11:28:34 ON 27 MAR 2002

=> file ca

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'CA' ENTERED AT 11:28:48 ON 27 MAR 2002

```
FILE COVERS 1907 - 21 Mar 2002 VOL 136 ISS 13
FILE LAST UPDATED: 21 Mar 2002  (20020321/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

CAS roles have been modified effective December 16, 2001. Please
check your SDI profiles to see if they need to be revised. For
information on CAS roles, enter HELP ROLES at an arrow prompt or use
the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the
CAS Registry Numbers that were added to the CAS files between 12/27/01
and 1/23/02.  As of 1/23/02, the situation has been resolved.  Searches
and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry
Numbers with the P indicator executed between 12/27/01 and 1/23/02 may
be incomplete.  See the NEWS message on this topic for more information.

=> s (chromic or chromous or chromate) and fluoride
         15974 CHROMIC
           760 CHROMOUS
         26095 CHROMATE
        192425 FLUORIDE
L1        1199 (CHROMIC OR CHROMOUS OR CHROMATE) AND FLUORIDE

=> 1 and (ligand or ligands)
1 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l1 and (ligand or ligands)
        209660 LIGAND
        140421 LIGANDS
L2          16 L1 AND (LIGAND OR LIGANDS)

=> s l2 and replacement and kinetics
         89081 REPLACEMENT
        634136 KINETICS
L3           0 L2 AND REPLACEMENT AND KINETICS

=> logoff
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y
COST IN U.S. DOLLARS                         SINCE FILE     TOTAL
                                                  ENTRY   SESSION
FULL ESTIMATED COST                               13.92     14.13

STN INTERNATIONAL LOGOFF AT 11:31:00 ON 27 MAR 2002
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* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

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FILE 'HOME' ENTERED AT 10:56:32 ON 27 MAR 2002

=> **file ca**

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'CA' ENTERED AT 10:57:14 ON 27 MAR 2002

FILE COVERS 1907 - 21 Mar 2002 VOL 136 ISS 13
FILE LAST UPDATED: 21 Mar 2002 (20020321/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

```
=> s (chromium(III) or cr(III) or chromous) and (zinc or zn)
MISSING OPERATOR 'CHROMIUM(III'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s (chromium adj (III) or cr adj (III) or chromous) and (zinc or zn)
MISSING OPERATOR 'ADJ (III'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s chromium(III)
MISSING OPERATOR 'CHROMIUM(III'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s chromium w III
        268963 CHROMIUM
        315848 W
        894865 III
L1           0 CHROMIUM W III
                 (CHROMIUM(W)W(W)III)

=> s chromium adj III
        268963 CHROMIUM
           192 ADJ
        894865 III
L2           0 CHROMIUM ADJ III
                 (CHROMIUM(W)ADJ(W)III)

=> s cr adj III
        343444 CR
           192 ADJ
```

894865 III
L3 0 CR ADJ III
(CR(W)ADJ(W)III)

=> **s chromium or cr**
268963 CHROMIUM
343444 CR
L4 454538 CHROMIUM OR CR

=> **s l4 and (ligand or ligands)**
209660 LIGAND
140421 LIGANDS
L5 10585 L4 AND (LIGAND OR LIGANDS)

=> **s l5 and replacement and kinetics**
89081 REPLACEMENT
634136 KINETICS
L6 43 L5 AND REPLACEMENT AND KINETICS

=> **s l6 and (chromic or chromous or chromate)**
15974 CHROMIC
760 CHROMOUS
26095 CHROMATE
L7 6 L6 AND (CHROMIC OR CHROMOUS OR CHROMATE)

=> **d l7 1-6 all**

L7 ANSWER 1 OF 6 CA
Full Text | Citing References

AN 112:105809 CA
TI Oxidation of arsine by sodium dichromate in the presence of halide ions
AU Dorfman, Ya. A.; Polimbetova, G. S.; Mansurov, B. A.; Doroshkevich, D. M.
CS Inst. Org. Katal. Elektrokhim., Alma-Ata, USSR
SO Zh. Obshch. Khim. (1989), 59(9), 2007-12
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Russian
CC 67-2 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 65
AB The **kinetics** and mechanism of AsH3 oxidn. by Na2Cr2O7 were studied at 293 K in a flow reactor with the capacity for potentiometric measurements. The catalytic influence of H3O+, Cl-, Br-, and I- was established. Reaction capacities decrease in the order CrO3I- > CrO3Br- > CrO3Cl-. The rate-limiting step is intramol. electron transfer in **Cr**(AsH3)O3X(H2O) (X = Cl, Br, I) intermediate complexes. The **replacement** of H2O at the X **ligand** site by halides increases the d. on **Cr**(VI) and retards the reaction. Effective charges on **ligands** in these complexes and their PH3 analogs were calcd. by using a CNDO method.
ST oxidn arsine **chromate** halide catalyst; quantum study **chromium** 6 complex; charge **ligand** **chromium** 6 complex
IT Oxidation catalysts
(halide anions, for arsine by **chromate**)
IT **Kinetics** of oxidation
(of arsine, by **chromate**, in presence of halide anions)
IT Electric charge
(effective, on **ligands** in **chromium**(VI) arsine or phosphine complexes contg. halide **ligands**)
IT 16887-00-6, Chloride, uses and miscellaneous 20461-54-5, Iodide, uses and miscellaneous 24959-67-9, Bromide, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for oxidn. of arsine by sodium dichromate)
IT 120045-52-5 120045-61-6 120045-62-7 120045-63-8 120065-24-9 125565-77-7
RL: RCT (Reactant)

(**ligand** effective charges in, quantum calcn. of, intramol. electron transfer in relation to)

IT 10588-01-9, Sodium **chromate** (Na2Cr2O7)
RL: RCT (Reactant)
(oxidn. by, of arsine in presence of halide anions)

IT 7784-42-1, Arsine
RL: PRP (Properties)
(oxidn. **kinetics** of, by sodium dichromate in presence of halide anions)

L7 ANSWER 2 OF 6 CA COPYRIGHT 2002 ACS

Full Text | Citing References

AN 90:61842 CA
TI Mechanistic studies on the reactions of cis-diaquabismalonatochromate(III) ion with 2,2'-dipyridyl and 1,10-phenanthroline
AU Chatterjee, C.; Basak, A. K.
CS Dep. Chem., Indian Inst. Technol., Bombay, India
SO Indian J. Chem., Sect. A (1978), 16A(9), 758-61
CODEN: IJCADU; ISSN: 0376-4710
DT Journal
LA English
CC 67-3 (Catalysis and Reaction Kinetics)
AB Kinetic studies in aq. soln. on the **replacement** of the aqua **ligands** in cis-[**Cr**(Mal)2(OH2)2]- by 2,2'-dipyridyl (dipy) and 1,10-phenanthroline (phen) forming [**Cr**(Mal)2(A-A)]- (A-A = dipy or phen) were made spectrophotometrically. Hitherto unknown mixed **ligand** complexes of **Cr**(III) in the form of K salts were also isolated and characterized. In both cases the anation reaction proceeds by a path purely 1st order with respect to the **ligand** concn. From the values of the rate consts. at 3 different temps. (at 50-70°), values of the activation parameters, ΔH* and ΔS*, are evaluated for each system. The values of the enthalpy of activation (ΔH*) for the present systems are fairly close to the corresponding values for the oxalato system suggesting a common mechanism involving outer sphere assocn. between the reacting complex and the entering **ligand** followed by transformation of the outer sphere complex into the product by an associative process. The results of the isokinetic plot (ΔH* vs. ΔS*) for the analogous **Cr**(III) systems are also indicative of the associative nature in the transition state for the present systems.
ST deaquation malonato **chromate**; dipyridyl deaquation malonato **chromate**; phenanthroline deaquation malonato **chromate**
IT Deaquation
Kinetics of deaquation
(of **chromium** malonato complex, by dipyridyl and phenanthroline)
IT 66-71-7 366-18-7
RL: RCT (Reactant)
(deaquation by, of **chromium** malonato complex, **kinetics** and mechanism of)
IT 18485-09-1
RL: RCT (Reactant)
(deaquation of, by chelating agents, **kinetics** and mechanism of)
IT 69030-48-4P 69030-49-5P
RL: PREP (Preparation)
(prepn. of)

L7 ANSWER 3 OF 6 CA COPYRIGHT 2002 ACS

Full Text | Citing References

AN 85:131201 CA
TI Rapid equilibration of the ethylenediamine-N,N,N',N'-tetraacetatoaquochromate(III) complex with **chromate**(VI), molybdate(VI), tungstate(VI), and azide. Labilization of the aquo **ligand** by the free

carboxylate and substitution at **chromium**(III)
AU Sulfab, Yousif; Taylor, Roger S.; Sykes, A. Geoffrey
CS Dep. Inorg. Struct. Chem., Univ. Leeds, Leeds, Engl.
SO Inorg. Chem. (1976), 15(10), 2388-93
CODEN: INOCAJ
DT Journal
LA English
CC 67-3 (Catalysis and Reaction Kinetics)
Section cross-reference(s): 68
AB Equilibration kinetic studies on the rapid complexation of ethylenediamine-N,N,N',N'-tetraacetatoaquachromate(III), **Cr**(edta)H2O-, with CrO42-, MoO42-, and WO42- were carried out by using the stopped-flow method at 25°, pH 7.3-8.7, and ionic strength 1.0 M (LiClO4). **Replacement** of the coordinated H2O, which is labilized by the free carboxylate arm of the edta, is obsd. Temp.-jump and stopped-flow studies of deaquation by N3- were also carried out at pH 4.3-5.4 and pH 7.38, resp. The hydrogen ion dependence of the forward rate const., kf, is in all cases given by k1 + k2[H+], where k2 makes ≤25% contributions with MoO42- (VI) and N3- and ≤10% with CrO42- and WO42-. Rate consts. k1 (M-1 sec-1) are 3.2 ± 0.2 (CrO42-), 21 ± 2 (MoO42-), 27 ± 4 (WO42-), and 98 ± 5 (N3-). Kinetic equil. consts. K1 = kf/kb are in good agreement with those obtained spectrophotometrically.
ST equil **chromium** EDTA deaquation; EDTA **chromium** deaquation **kinetics**; **chromate** deaquation EDTA **chromium**; molybdate deaquation EDTA **chromium**; tungstate deaquation EDTA **chromium**; azide deaquation EDTA **chromium**
IT Group VIB elements
RL: USES (Uses)
(deaquation by anionic forms of, of **chromium** EDTA complex, **kinetics** and equil. of)
IT Deaquation
Kinetics of deaquation
(of **chromium** EDTA complex, by azide and transition metal anions, reversible)
IT 13907-45-4 14259-85-9 14311-52-5 14343-69-2
RL: RCT (Reactant)
(deaquation by, of **chromium** EDTA complex, **kinetics** and equil. of)
IT 19610-17-4
RL: RCT (Reactant)
(deaquation of, dianions, **kinetics** and equil. of)

L7 ANSWER 4 OF 6 CA COPYRIGHT 2002 ACS
Full Text | Citing References
AN 79:58177 CA
TI Mechanistic studies on the reactions of cis-diaquobis(oxalato)**chromate**(III) ion with 2,2'-dipyridyl and 1,10-phenanthroline
AU Banerjea, D.; Roy, J.
CS Dep. Chem., Univ. Coll. Sci., Calcutta, India
SO Z. Anorg. Allg. Chem. (1973), 399(1), 115-19
CODEN: ZAACAB
DT Journal
LA English
CC 67-3 (Catalysis and Reaction Kinetics)
Section cross-reference(s): 22
AB The **kinetics** of the **replacement** of the H2O **ligands** in cis-**Cr**(H2O)2(C2O4)2- by 2,2'-dipyridyl (dipy) and 1,10-phenanthroline (phen) with formation of cis-Crdipy-(C2O4)2- and cis-Crphen(C2O4)2-, resp., was studied by spectrophotometry at 40-70°. The reaction followed 2 paths according to kobsd. = k0 + k1[L] (k = rate consts., L = dipy or phen). The const. k0 was identical for both systems [(3-10) × 10-4 min-1], whereas k1 was slightly higher for phen than for dipy and k1/k0 was ~20. The activation parameters ΔH± were

11.5, 19.8, and 20.8 kcal mole-1 and ΔS± were -46.7, -10.2, and -5.0 eu for k0, k1 (dipy), and k1 (phen), resp. The results suggest a dissocn. mechanism for the L-independent path (k0), where **Cr**-OH2 bond rupture is significant in the transition state, but significant bond formation by L in the transition state of the L-dependent path (k1). In the latter, simultaneous rupture of the two **Cr**-OH2 bonds in cis position is indicated by the ΔH± values.

ST deaquaton **chromium** oxalato complex; dipyridyl deaquation **chromium** complex; phenanthroline deaquation **chromium** complex; **kinetics** deaquation **chromium** complex; mechanism deaquation **chromium** complex

IT **Kinetics** of deaquation
(of **chromium** oxalate complexes)

IT Deaquation
(of **chromium** oxalate complexes, mechanism of)

IT 66-71-7 366-18-7
RL: RCT (Reactant)
(deaquation by, of **chromium** oxalate complex, **kinetics** and mechanism of)

IT 15489-30-2
RL: RCT (Reactant)
(deaquation of, by bipyridine and phenanthroline, **kinetics** and mechanism of)

L7 ANSWER 5 OF 6 CA COPYRIGHT 2002 ACS

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AN 68:99114 CA

TI **Kinetics** and mechanism of the reaction between the hexaaquochromic ion and the polyphosphate ion

AU Macarovici, Constantin G.; Stanisav, Costa; Niac, Gavril

CS Univ. Cluj, Cluj, Rom.

SO Rev. Roum. Chim. (1967), 12(6), 743-50
CODEN: RRCHAX

DT Journal

LA French

CC 67 (Catalysis and Reaction Kinetics)

AB **Cr**(NO3)3 soln. was poured progressively into the polyphosphate soln., until the ppt. formed just disappeared, this moment being termed t = 0. With progressive **replacement** of the **ligand**, the soln. color changed from violet to green; the color of the reaction product was similar to that of the [**Cr**(H2O)4Cl2]+. At diverse time intervals, 10 cc. samples were withdrawn, passed over a cationic exchange resin (Dowex 50 W, in H form, 50-100 mesh) column, the role of which is the retention of the [**Cr**(H2O)6]+++ ions unengaged in the reaction with the polyphosphate, to allow study of the **replacement** of the 1st H2O mol. by an anionic group of the polyphosphate macromol. The concn. of the free **Cr**(III) ion at different moments was detd. by [**Cr**(H2O)6]+++ = f(t). Absorbance was detd. at λ = 370, 470, 530, and 680 mμ, and sometimes whole absorption spectra in the visible and uv were obtained. For tracing the [**Cr**(H2O)4Cl2]+ spectrum, CrCl3 was dissolved in H2O at 3°, and the spectrum was recorded at this temp. In order to detect the [**Cr**(H2O)5Cl]++ at max. concn., the soln. was left for 1-2 hrs. at room temp. The soln. used for kinetic measurements was boiled for 15 min., to establish the final reaction product, which was pptd. by EtOH. After drying in air, the greenish tinted substance, contg. excess polyphosphate, with respect to **Cr**+++, was decompd. thermogravimetrically. Subtracting the large amt. of H2O, retained <400°, left 2 plateaus, one at 500° and one at 600-700°, corresponding to elimination of 2 H2O from the internal coordination sphere. The final product contained 4 H2O mols. which means that in this reaction, 2 H2O mols. can be replaced totally by anionic polyphosphate groups. The substitution of the last H2O mols. occurs only in the molten state, when a glass is formed, which is H2O sol. The resemblance between the spectra of the resulting polyphosphate and of the ion [**Cr**(H2O)4Cl2]+ confirmed that only 2 mols.

are substituted. In both cases the 16,000 cm.-1 band was cleaved into 3 bands, indicating an axial symmetry. The gradual disappearance of the initial ion **[Cr**(H2O)6]+++ and the appearance of the product ion-[**Cr**(H2O)4(-PO3-)2]+ could be followed spectrophotometrically, by the diminishing absorbance at 370 and 530 mμ, and the increasing absorbance at 470 and 480 mμ. Examn. of the thermal gravimetric analysis curve demonstrated 2 stages in the reaction, with formation of [**Cr**(H2O)5(-PO3-)]++ in the 1st stage. The 2nd stage of the reaction was difficult to be analyzed kinetically, and hence, spectrophotometric data were collected for the 1st stage only, obtaining by calcn. the rate consts. at corresponding λ values: k370 = 3.4 x 10-5 sec.-1, and k530 = 2.6 x 10-5. By means of the ion exchange resin, the influence of the 2nd stage was eliminated, obtaining values of 11.7 x 10-5-15.5 x 10-5 sec.-1 for the 1st stage. The slope of the plots of log [**Cr**(H2O)6]+++ vs. time indicated a 1st order reaction, with respect to this ion. The reaction is practically 0 order with respect to the polyphosphate ion, so that the total order of reaction was 1, indicating that substitution of the 1st H2O mol. by the (-PO3-) was of the SN1 type. Detns. at 40-55° allowed calcn. of the activation energy at E = 25,700 cal./mole, and of ΔS* = 2 entropy units. The 2nd stage of the reaction progressed likely by the same order and by the same mechanism, which implies that the (-PO3-) group is fixed electrostatically in the external sphere or that a nucleophilic attack of SN1 I.P. (ion pair) type occurred, the presence of the (-PO3-) **ligand** influencing solely the rate const. without modifying the mechanism.

ST **CHROMIC** ION WATER RELEASE; PHOSPHATE WATER SUBSTITUTION; WATER PHOSPHATE SUBSTITUTION

IT Entropy
(of activation, of substitution reactions of hexaaquachromium(3+) with polyphosphates)

IT Activation energy of substitution reactions
Kinetics of substitution reactions
(of hexaaquachromium(3+), with polyphosphates)

IT Substitution reactions
(of hexaaquachromium(3+), with polyphosphates, mechanism of)

IT Polyphosphates
RL: RCT (Reactant)
(substitution reactions of, with hexaaquachromium(3+), **kinetics** and mechanism of)

IT 14873-01-9
RL: RCT (Reactant)
(substitution reactions of, with polyphosphates, **kinetics** and mechanism of)

L7 ANSWER 6 OF 6 CA COPYRIGHT 2002 ACS

Full Text | Citing References

AN 66:98897 CA

TI Substitution reactions of oxalato complex ions. VI. The **kinetics** of the anation reaction of cis-bis(oxalato)diaquochromium(III) ion with oxalate ion in aqueous solution

AU Kelm, Hartwig; Harris, Gordon McLeod

CS State Univ. of New York, Buffalo, N. Y., USA

SO Inorg. Chem. (1967), 6(4), 706-11
CODEN: INOCAJ

DT Journal

LA English

CC 67 (Catalysis and Reaction Kinetics)

AB cf. CA 57, 4294i. The complex ion cis-**Cr**(C2O4)2(H2O)2- undergoes reaction in aq. soln. with either HC2O4- or C2O42- ion to give the tris(oxalato)**chromium**(III) complex ion. The rate-detg. step appears to be **ligand** water dissocn. from the diaquo complex ion, following an outersphere associative equilibration of the latter with bioxalate or oxalate ion. The observed pseudo-first-order rate const. is described by

k = kw[K1(HC2O4-)/[1 + K1(HC2O4-)] + K2(C2O42-)/[1 + K2(C2O42-)]], where K1 and K2 are the assocn. consts. for bioxalate and oxalate, resp., and kw is the rate const. of the water **replacement**. K1 and K2 have values of 0.85 and 1.9, resp., at 50° and are independent of the ionic strength, I. At 50°, kw varies between about 10-3 sec.-1 at I = 0 and about 7 × 10-3 sec.-1 at I = 2.7M. The ionic strength effects are not altered by changes in the nature of the "inert" 1-1 electrolyte used. Temp. dependence studies indicate that the enthalpy of activation of the rate-detg. process is close to 22 kcal./mole. 24 references.

IT Substitution reactions
(of oxalate ions for water in cis-diaquabis(oxalato)**chromate** (1+), mechanism of)

IT Activation energy of substitution reactions
Kinetics of substitution reactions
(of oxalate ions for water in cis-diaquabis(oxalato)**chromate** (1-))

IT 15489-30-2
RL: RCT (Reactant)
(substitution of oxalate ions for water in, **kinetics** and mechanism of)

IT 338-70-5, reactions 920-52-5, reactions
RL: RCT (Reactant)
(substitution of, for water in cis-diaquabis(oxalato)**chromate** (1-), **kinetics** and mechanism of)

=>